

and in further view of Japanese Patent No. JP-11295717 to Masayuki (hereafter "the Masayuki patent"), and (5) rejected claims 5 and 13 to 15 under 35 U.S.C. 103(a) as being unpatentable over the Funahata patent in view of the Sekiguchi patent.

Regarding items (1) and (2) identified above, it is respectfully submitted that Figs. 1 and 3 of the drawings filed January 16, 2001, are intended to reflect "the reflection layer and pixel electrode layer are in the same layer and in common". Figs. 1 and 3, in contrast to Figs. 2 and 4, show vertical lines running through both of the layers in question (i.e., 12 and 13 or 13'). It is respectfully submitted that these vertical lines are intended to reflect the commonality of the layers. Accordingly, as the drawings show every feature of the invention specified in the claims, reconsideration and withdrawal of the objections are respectfully requested.

In addition, should any further revision to the drawings be required, instruction as to such revision is respectfully requested.

Regarding item (3) identified above, it is respectfully submitted that present claim 1 is patentable over each cited reference (i.e., the Funahata patent and the Sekiguchi patent), and that claim 1 defines an invention that is neither disclosed nor suggested by the cited reference combination.

The Funahata patent reads on a device having a glass substrate (1), a black matrix or dispersed polymer layer (2), a reflective layer (3), non-photosensitive color filters (5a, 5b, 5c), transparent electrodes (6, 11), a liquid crystal layer

(14), a spacer (13), an alignment layer (12), another glass substrate (10), a first phase plate (20), a second phase plate (21), and a polarizer (22). (col. 3, lines 11-37); (Fig. 2).

In furtherance of the response filed February 25, 2003, it is respectfully noted that, as suggested by the Action, the Funahata patent does not suggest or disclose "a color filter layer divided into at least two portions, each portion in correspondence with the sub-pixels and having an appropriate optical filter part for coloring (or transmitting all light components), wherein at least one portion performs coloring for the primary colors and at least one additional portion filters or transmits light components of predetermined wavelengths".

In addition, it is respectfully submitted that the Funahata patent likewise fails to suggest or disclose "a light scattering layer located toward a front side of the display device" (emphasis added). Rather, the Funahata patent contrastingly suggests a diffusion reflector 3 toward a rear side of a liquid crystal display element. (see Fig. 2)

With regard to the Sekiguchi patent, the Sekiguchi patent discloses color filters 11, 12 and 13 provided on a substrate 6 at regions opposite display electrodes 15 (regions completely covering pixel regions 19). These filters 11, 12 and 13 are of three colors (i.e., blue (B), red (R) and green (G)). (col. 7, lines 52-56). The regions enclosing the segments of the color filters 11, 12 and 13 exhibit no filtering action and constitute light transmitting portions 14 that pass light with substantially no attenuation. (col. 7, lines 60-65).

It is respectfully submitted that the Sekiguchi patent,

like the Funahata patent, does not suggest or disclose "a light scattering layer located toward a front side of the display device". Rather, the Sekiguchi specifically teaches away from such an arrangement.

That is, the Sekiguchi specifically teaches: (1) resin 36 having light transmittance is embedded in the openings 11e and the exposed surfaces thereof are roughened to form uneven surfaces 36a...the uneven surfaces 36a scatter light, (col. 16, lines 26-30), (Fig. 13); (2) light entering the individual transmitting insulation particles 34 of the color filter 11 spreads through the surrounding color filter 11 to be further scattered by other light transmitting insulation particles 34 dispersed in the color filter 11, (col. 17, lines 25-29), (Figs. 15-16); (3) the use of a polymer dispersive liquid crystal consisting of a liquid crystal and a polymer as the liquid crystal layer 16, the scattering property during non-display and the high transmittance during display are thoroughly utilized, (col. 19, lines 13-17); (4) An EL light 78 constituting an auxiliary light source and a scattering plate 91 are disposed at the rear surface side of the first substrate 1, (col. 21, lines 5-7) (Figs. 22-23); (5) a mode is adopted in which the state of the liquid crystal and the polymer of the liquid crystal layer 16 becomes one of scattering when the voltage applied to the liquid crystal layer 16 is small and becomes one of transparency when the voltage is large, (col. 21, lines 35-39) (Figs. 22-23); and (6) a scattering plate 91 is disposed across a prescribed gap from the side of the first substrate 1 opposite from the surface thereof provided with the first reflecting film 50 (the rear side) and a second reflecting film 80 is provided on the scattering plate 91...the first substrate 1 and the scattering plate 91 are spaced across a prescribed gap so that the

auxiliary light 20 from the LED can illuminate the whole liquid crystal display panel, (col. 22, lines 5-9), (col. 22, lines 17-20), (Figs. 22-23).

Accordingly, based on the foregoing discussion with regard to the Funahata patent and the Sekiguchi patent, it is respectfully submitted that present claim 1 is patentable over the cited combination of such references. Thus, reconsideration and withdrawal of the rejection, and allowance of claim 1, are respectfully requested.

Regarding claims 2 through 5, which depend either directly or indirectly from claim 1, it is respectfully submitted that they are each patentable at least for the reasons discussed above with respect to claim 1. Accordingly, reconsideration and withdrawal of the rejection, and allowance of claims 2 through 5, are respectfully requested.

Regarding claim 6, it is respectfully submitted in furtherance of the response filed February 25, 2003, and contrary to that which was suggested in the Action of November 20, 2002, that Funahata patent does not disclose or suggest a light scattering film with "at least one additional portion filtering or transmitting light components of predetermined wavelengths; and a light scattering portion being extended over the whole of the film, wherein the at least one additional portion and the light scattering portion are integrally formed from the same material" (emphasis added).

In contrast, it is respectfully submitted that the Funahata patent teaches "reflectors [3] at the portion corresponding to the intervals between the transparent electrodes 6, 11 are

removed, and color filters [5a, 5b, 5c] laminated at the portions where the reflectors [3] are removed" (emphasis added). (col. 10, lines 5-11). Further, the Funahata patent teaches that "the leveling layer may be provided between the reflector 3 and the color filters 5a, 5b, 5c, or between the color filters 5a, 5b, 5c, and the transparent electrodes 6" (emphasis added). Thus, at least based on the foregoing excerpts, it is respectfully submitted that reflector 3 and filters 5a, 5b, 5c are separate and not "integrally formed" of the same material.

With regard to the Sekiguchi patent, it is respectfully submitted that, similar to the Funahata patent, the Sekiguchi patent fails to disclose or suggest a light scattering film with "at least one additional portion filtering or transmitting light components of predetermined wavelengths; and a light scattering portion being extended over the whole of the film, wherein the at least one additional portion and the light scattering portion are integrally formed from the same material" (emphasis added). Rather, the Sekiguchi patent, with regard to the scattering of light, specifically teaches away from such an arrangement (see items (1) to (6) above with respect to claim 1).

Accordingly, based on the foregoing, it is respectfully submitted that present claim 6 is patentable over the cited combination of references. Thus, reconsideration and withdrawal of the rejection, and allowance of claim 6, are respectfully requested.

Regarding claims 8, it is respectfully submitted that, as noted above with respect to claim 6, both of the cited references fail to disclose or suggest "a light scattering portion extended over the whole of the film, the light

scattering portion and the at least one additional portion being integrally formed from the same material" (emphasis added). Thus, it is respectfully submitted that as claim 8 is patentable. Accordingly, reconsideration and withdrawal of the rejection of claim 8, and allowance of claim 8, are respectfully requested.

Claims 9 and 10, which depend from claim 8 are likewise patentable for at least the reasons noted with respect to claim 8. Accordingly, reconsideration and withdrawal of the rejection, and allowance of claims 9 and 10, are respectfully requested.

Regarding item (4) identified above, it is respectfully submitted that, irrespective of the teachings provided by the Masayuki patent, claims 7, and 11 to 12, which depend either directly or indirectly from claim 1, are patentable over the cited combination of references at least for the reasons discussed above with respect to claim 1. Accordingly, reconsideration and withdrawal of the rejection, and allowance of claims 7, and 11 to 12, are respectfully requested.

Regarding item (5) identified above, it is respectfully submitted that claims 5, and 13 to 15, which depend either directly or indirectly from claim 1, are patentable over the cited combination of references at least for the reasons discussed above with respect to claim 1. Accordingly, reconsideration and withdrawal of the rejection, and allowance of claims 5, and 13 to 15, are respectfully requested.

In sum, it is respectfully submitted that the present pending claims are clearly patentable over each of the cited

references and/or any proper combination thereof. Thus, this application is in condition for allowance. Accordingly, reconsideration and withdrawal of all rejections of the claims are respectfully requested.

Dated:

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VERSION WITH MARKINGS TO SHOW CHANGES MADE**IN THE CLAIMS**

Please amend claims 1 and 6 through 10 as follows:

1. (Twice Amended) A reflection type color liquid crystal display device for displaying a color image formed based on unit pixels each comprising sub-pixels corresponding to primary colors by using extraneous light, which comprises:

a liquid crystal layer varying a state of light transmitted therethrough in accordance with electric field applied thereacross;

a reflection layer reflecting light which is incident thereon via the liquid crystal layer;

a transparent electrode layer and a pixel electrode layer for applying electric field to the liquid crystal layer for each of the sub-pixels in accordance with an image to be displayed, the transparent electrode layer located on and in contact with a side of one main surface of the liquid crystal layer on which extraneous light is incident, the pixel electrode layer located on a side of another surface of the liquid crystal layer on which light reflected from the reflection layer is incident; [and]

a light scattering layer located toward a front side of the display device; and

a color filter layer divided into at least two portions, each portion in correspondence with the sub-pixels and having an appropriate optical filter part for coloring (or transmitting all light components), wherein at least one portion performs coloring for the primary colors and [another] at least one additional portion filters or transmits light components of predetermined wavelengths.

6. (Twice Amended) A light scattering film capable of being used in a liquid crystal device for displaying a color image on the basis of unit pixels [comprising] having sub-pixels corresponding to primary colors, wherein the light scattering film comprises:

at least two portions, each portion in correspondence with the sub-pixels and having an appropriate optical filter part for coloring (or transmitting all light components), wherein at least one portion performs coloring for the primary colors and [another portion] at least one additional portion filtering or transmitting light components of predetermined wavelengths; and

a light scattering portion being extended over the whole of the film, [and in that]

wherein the [additional portions] at least one additional portion and the light scattering portion are integrally formed from the same material.

7. (Twice Amended) The [device] light scattering film of claim 6, wherein the light components of predetermined wavelengths are white light.

8. (Twice Amended) A method of manufacturing a light scattering film capable of being used in a liquid crystal display device for displaying a color image on the basis of unit pixels comprising sub-pixels corresponding to primary colors, wherein the method comprises:

a first step of forming at least two portions on a support member, each portion in correspondence with the sub-pixels and having an appropriate optical filter part for coloring (or transmitting all light components), wherein at least one portion performs coloring for the primary colors and [another portion] at least one additional portion filtering or transmitting light components of predetermined wavelengths; and

a succeeding step of filling the space and forming a light scattering portion extended over the whole of the film, [with the same material which can be characteristic of transmitting the light components of predetermined wave-lengths] the light scattering portion and the at least one additional portion being integrally formed from the same material.

9. (Twice Amended) The [device] method of claim 8, wherein the support member is a transparent substrate located on a front side of a display screen in the liquid crystal display device.

10. (Amended) The [device] method of claim 8, wherein the support member is a transparent substrate which is located on a rear side of a display screen in the liquid crystal display device and on which a layer of driving element array and a reflection layer are stacked, and in that the coloring portions and the additional portions are formed on the reflection layer.